



DEPARTMENT OF HEALTH AND HUMAN SERVICES

Food and Drug Administration

21 CFR Part 882

[Docket No. FDA-2021-N-0896]

Medical Devices; Neurological Devices; Classification of the Traumatic Brain Injury Eye Movement Assessment Aid

AGENCY: Food and Drug Administration, HHS.

ACTION: Final amendment; final order.

SUMMARY: The Food and Drug Administration (FDA or we) is classifying the traumatic brain injury eye movement assessment aid into class II (special controls). The special controls that apply to the device type are identified in this order and will be part of the codified language for the traumatic brain injury eye movement assessment aid's classification. We are taking this action because we have determined that classifying the device into class II (special controls) will provide a reasonable assurance of safety and effectiveness of the device. We believe this action will also enhance patients' access to beneficial innovative devices.

DATES: This order is effective [INSERT DATE OF PUBLICATION IN THE *FEDERAL REGISTER*]. The classification was applicable on December 28, 2018.

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SUPPLEMENTARY INFORMATION:

I. Background

Upon request, FDA has classified the traumatic brain injury eye movement assessment aid as class II (special controls), which we have determined will provide a reasonable assurance of safety and effectiveness. In addition, we believe this action will enhance patients' access to

beneficial innovation, by placing the device into a lower device class than the automatic class III assignment.

The automatic assignment of class III occurs by operation of law and without any action by FDA, regardless of the level of risk posed by the new device. Any device that was not in commercial distribution before May 28, 1976, is automatically classified as, and remains within, class III and requires premarket approval unless and until FDA takes an action to classify or reclassify the device (see 21 U.S.C. 360c(f)(1)). We refer to these devices as “postamendments devices” because they were not in commercial distribution prior to the date of enactment of the Medical Device Amendments of 1976, which amended the Federal Food, Drug, and Cosmetic Act (FD&C Act).

FDA may take a variety of actions in appropriate circumstances to classify or reclassify a device into class I or II. We may issue an order finding a new device to be substantially equivalent under section 513(i) of the FD&C Act (see 21 U.S.C. 360c(i)) to a predicate device that does not require premarket approval. We determine whether a new device is substantially equivalent to a predicate device by means of the procedures for premarket notification under section 510(k) of the FD&C Act (21 U.S.C. 360(k) and part 807 (21 CFR part 807)).

FDA may also classify a device through “De Novo” classification, a common name for the process authorized under section 513(f)(2) of the FD&C Act. Section 207 of the Food and Drug Administration Modernization Act of 1997 established the first procedure for De Novo classification (Pub. L. 105-115). Section 607 of the Food and Drug Administration Safety and Innovation Act modified the De Novo application process by adding a second procedure (Pub. L. 112-144). A device sponsor may utilize either procedure for De Novo classification.

Under the first procedure, the person submits a 510(k) for a device that has not previously been classified. After receiving an order from FDA classifying the device into class III under section 513(f)(1) of the FD&C Act, the person then requests a classification under section 513(f)(2).

Under the second procedure, rather than first submitting a 510(k) and then a request for classification, if the person determines that there is no legally marketed device upon which to base a determination of substantial equivalence, that person requests a classification under section 513(f)(2) of the FD&C Act.

Under either procedure for De Novo classification, FDA is required to classify the device by written order within 120 days. The classification will be according to the criteria under section 513(a)(1) of the FD&C Act. Although the device was automatically placed within class III, the De Novo classification is considered to be the initial classification of the device.

When FDA classifies a device into class I or II via the De Novo process, the device can serve as a predicate for future devices of that type, including for 510(k)s (see section 513(f)(2)(B)(i) of the FD&C Act). As a result, other device sponsors do not have to submit a De Novo request or premarket approval application to market a substantially equivalent device (see section 513(i) of the FD&C Act, defining “substantial equivalence”). Instead, sponsors can use the less-burdensome 510(k) process, when necessary, to market their device.

II. De Novo Classification

On December 22, 2017, FDA received Oculogica, Inc.’s request for De Novo classification of the EyeBOX®. FDA reviewed the request in order to classify the device under the criteria for classification set forth in section 513(a)(1) of the FD&C Act.

We classify devices into class II if general controls by themselves are insufficient to provide reasonable assurance of safety and effectiveness, but there is sufficient information to establish special controls that, in combination with the general controls, provide reasonable assurance of the safety and effectiveness of the device for its intended use (see section 513(a)(1)(B) of the FD&C Act). After review of the information submitted in the request, we determined that the device can be classified into class II with the establishment of special controls. FDA has determined that these special controls, in addition to the general controls, will provide reasonable assurance of the safety and effectiveness of the device.

Therefore, on December 28, 2018, FDA issued an order to the requester classifying the device into class II. In this final order, FDA is codifying the classification of the device by adding 21 CFR 882.1455.¹ We have named the generic type of device traumatic brain injury eye movement assessment aid, and it is identified as a prescription device that uses a patient's tracked eye movements to provide an interpretation of the functional condition of the patient's brain. This device is an assessment aid that is not intended for standalone detection or diagnostic purposes.

FDA has identified the following risks to health associated specifically with this type of device and the measures required to mitigate these risks in table 1.

Table 1.--Traumatic Brain Injury Eye Movement Assessment Aid Risks and Mitigation Measures

Identified Risks	Mitigation Measures
Incorrect or misinterpreted results, including: <ul style="list-style-type: none"> False positive: brain injury when in fact none is present False negative: no brain injury when in fact brain injury is present 	Clinical performance testing; Software verification, validation, and hazard analysis; and Labeling
Interference with other devices	Electromagnetic compatibility (EMC) testing; and Software verification, validation, and hazard analysis
Electrical shock or burn	Electrical safety testing; and Software verification, validation, and hazard analysis
Adverse tissue reaction	Biocompatibility evaluation
Eye hazard or injury	Light hazard assessment

FDA has determined that special controls, in combination with the general controls, address these risks to health and provide reasonable assurance of safety and effectiveness. For a device to fall within this classification, and thus avoid automatic classification in class III, it would have to comply with the special controls named in this final order. The necessary special

¹ FDA notes that the "ACTION" caption for this final order is styled as "Final amendment; final order," rather than "Final order." Beginning in December 2019, this editorial change was made to indicate that the document "amends" the Code of Federal Regulations. The change was made in accordance with the Office of Federal Register's (OFR) interpretations of the Federal Register Act (44 U.S.C. chapter 15), its implementing regulations (1 CFR 5.9 and parts 21 and 22), and the Document Drafting Handbook.

controls appear in the regulation codified by this order. This device is subject to premarket notification requirements under section 510(k) of the FD&C Act.

At the time of classification, traumatic brain injury eye movement assessment aids are for prescription use only. Prescription devices are exempt from the requirement for adequate directions for use for the layperson under section 502(f)(1) of the FD&C Act (21 U.S.C. 352(f)(1)) and 21 CFR 801.5, as long as the conditions of 21 CFR 801.109 are met.

III. Analysis of Environmental Impact

The Agency has determined under 21 CFR 25.34(b) that this action is of a type that does not individually or cumulatively have a significant effect on the human environment. Therefore, neither an environmental assessment nor an environmental impact statement is required.

IV. Paperwork Reduction Act of 1995

While this final order contains no collection of information, it establishes special controls that refer to previously approved FDA collections of information found in other FDA regulations and guidance. Therefore, clearance by the Office of Management and Budget (OMB) under the Paperwork Reduction Act of 1995 (PRA) (44 U.S.C. 3501-3521) is not required for this order. The previously approved collections of information are subject to review by OMB under the PRA. The collections of information in the guidance document “De Novo Classification Process (Evaluation of Automatic Class III Designation)” have been approved under OMB control number 0910-0844; the collections of information in 21 CFR part 814, subparts A through E, regarding premarket approval, have been approved under OMB control number 0910-0231; the collections of information in part 807, subpart E, regarding premarket notification submissions, have been approved under OMB control number 0910-0120; the collections of information in 21 CFR part 820, regarding quality system regulation, have been approved under OMB control number 0910-0073; and the collections of information in 21 CFR part 801, regarding labeling, have been approved under OMB control number 0910-0485.

List of Subjects in 21 CFR Part 882

Medical devices.

Therefore, under the Federal Food, Drug, and Cosmetic Act, and under authority delegated to the Commissioner of Food and Drugs, 21 CFR part 882 is amended as follows:

PART 882--NEUROLOGICAL DEVICES

1. The authority citation for part 882 continues to read as follows:

Authority: 21 U.S.C. 351, 360, 360c, 360e, 360j, 360l, 371.

2. Add § 882.1455 to subpart B to read as follows:

§ 882.1455 Traumatic brain injury eye movement assessment aid.

(a) *Identification.* A traumatic brain injury eye movement assessment aid is a prescription device that uses a patient's tracked eye movements to provide an interpretation of the functional condition of the patient's brain. This device is an assessment aid that is not intended for standalone detection or diagnostic purposes.

(b) *Classification.* Class II (special controls). The special controls for this device are:

(1) Clinical performance data under anticipated conditions of use must evaluate tracked eye movement in supporting the indications for use and include the following:

(i) Evaluation of sensitivity, specificity, positive predictive value, and negative predictive value using a reference method of diagnosis;

(ii) Evaluation of device test-retest reliability; and

(iii) A description of the development of the reference method of diagnosis, which may include a normative database, to include the following:

(A) A discussion of how the clinical work-up was completed to establish the reference method of diagnosis, including the establishment of inclusion and exclusion criteria; and

(B) If using a normative database, a description of how the "normal" population was established, and the statistical methods and model assumptions used.

(2) Software verification, validation, and hazard analysis must be performed. Software documentation must include a description of the algorithms used to generate device output.

(3) Performance testing must demonstrate the electrical safety and electromagnetic compatibility (EMC) of the device.

(4) The patient-contacting components of the device must be demonstrated to be biocompatible.

(5) A light hazard assessment must be performed for all eye-tracking and visual display light sources.

(6) Labeling must include:

(i) A summary of clinical performance testing conducted with the device, including sensitivity, specificity, positive predictive value, negative predictive value, and test-retest reliability;

(ii) A description of any normative database that includes the following:

(A) The clinical definition used to establish a “normal” population and the specific selection criteria;

(B) The format for reporting normal values;

(C) Examples of screen displays and reports generated to provide the user results and normative data;

(D) Statistical methods and model assumptions; and

(E) Any adjustments for age and gender.

(iii) A warning that the device should only be used by trained healthcare professionals;

(iv) A warning that the device does not identify the presence or absence of traumatic brain injury or other clinical diagnoses;

(v) A warning that the device is not a standalone diagnostic; and

(vi) Any instructions to convey to patients regarding the administration of the test and collection of test data.

Dated: December 9, 2021.

Lauren K. Roth,

Associate Commissioner for Policy.

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